Claims Listing

1. (originally presented) A fusion protein comprising:

(a) a mammalian surfactant protein precursor lacking its C-terminal propeptide, and

(b) a mammalian plasminogen activator,

wherein the surfactant protein precursor is fused at its C-terminus to the N-terminus of the plasminogen activator.

2. (originally presented) The fusion protein of claim 1 wherein one of the protein components (a) or (b) is a human protein.

3. (presently amended) The fusion protein of claim 1 ~~or 2~~, wherein both protein components (a) and (b) are human proteins.

4. (presently amended) The fusion protein of ~~any of claims 1 to 3~~ claim 1, wherein the surfactant protein precursor is selected from surfactant protein B (SP-B) or surfactant protein C (SP-C).

5. (presently amended) The fusion protein of ~~any of claims 1 to 4~~ claim 1, wherein the surfactant protein precursor is surfactant protein B (SP-B).

6. (originally presented) A fusion protein comprising:

(a) a mature mammalian surfactant protein, and

(b) a mammalian plasminogen activator,

wherein the mature surfactant protein is fused at its C-terminus or its N-terminus to the N-terminus or the C-terminus of the plasminogen activator, respectively.

7. (originally presented) The fusion protein of claim 6, wherein one of the protein components (a) or (b) is a human protein.

8. (presently amended) The fusion protein of claim 6 ~~or 7~~, wherein both protein components (a) and (b) are human proteins.

9. (presently amended) The fusion protein of ~~any of claims 6 to 8~~ claim 6, wherein the mature surfactant protein is selected from the group consisting of surfactant protein B (SP-B), and surfactant protein C (SP-C).

10. (presently amended) The fusion protein of ~~any of claims claim 6 to 9~~ claim 6, wherein the mature surfactant protein is surfactant protein B (SP-B).

11. (presently amended) A fusion protein of ~~any of claims claim 1 to 10~~ claim 1, wherein the mammalian plasminogen activator is selected from the group consisting of high molecular weight two-chain urokinase-plasminogen activator (HMW-u-PA), low molecular weight two-chain u-PA (LMW-u-PA), low molecular weight u-PA B-chain, recombinant single-chain u-PA (r-scu-PA), tissue-plasminogen activator (t-PA), recombinant t-PA (rt-PA), its variants r-PA, n-PA, and TNK-t-PA, and catalytically active mutants of the plasminogen activator.

12. (presently amended) The fusion protein according to ~~any of claims 1 to 5~~ claim 1 comprising the surfactant protein B (SP-B) precursor N-terminally fused to the low molecular weight two-chain u-PA (LMW-u-PA), as shown in SEQ ID NO: 19 and SEQ ID NO: 20, respectively.

13. (presently amended) The fusion protein according to ~~any of claims claim 6 to 10~~ claim 6 comprising the mature surfactant protein B (SP-B) fused to the low molecular weight two-chain u-PA (LMW-u-PA), as shown in SEQ ID NO: 25 and SEQ ID NO: 26, respectively.

14. (presently amended) The fusion protein of ~~any of claims 1 to 13~~ claim 1, ~~which carries a~~ further comprising one or more protein or peptide affinity ~~tag~~ tags at ~~its~~ positions selected from the N-terminus of the fusion protein, ~~and/or at its~~ the C-terminus of the fusion protein, and both the N-terminus and C-terminus of the fusion protein .

15. (presently amended) A nucleic acid molecule comprising a nucleotide sequence encoding a fusion protein of ~~any of claims 1 to 14~~ claim 1.

16. (presently amended) ~~The~~ A nucleic acid molecule comprising the nucleotide sequence of SEQ ID No: 6 or SEQ ID NO: 7.

17. (presently amended) ~~The~~ A nucleic acid molecule comprising the nucleotide sequence of SEQ ID No: 12 or SEQ ID NO: 13.

18. (presently amended) The nucleic acid molecule according to ~~any of claims 15 to 17~~ claim 15, wherein the nucleic acid molecule is operably linked to a regulatory sequence to allow expression of the nucleic acid molecule.

19. (originally presented) The nucleic acid molecule according to claim 18, wherein the regulatory sequence comprises a promoter sequence and a transcription termination sequence.

20. (presently amended) ~~The~~ A vector comprising the nucleic acid molecule of ~~any of claims 15 to 19~~ claim 15 ~~comprised in a vector~~.

21. (presently amended) A host cell containing a nucleic acid molecule of ~~any of claims 15-20~~ claim 15.

22. (presently amended) A method for production of a fusion protein of ~~any of claims 1 to 14~~ claim 1, comprising:

(a) introducing a nucleic acid molecule encoding the fusion protein into a suitable vector, and

(b) introducing the recombinant vector obtained in (a) into a suitable host cell or into a suitable cell extract.

23. (presently amended) A pharmaceutical composition comprising a fusion protein of ~~any of claims 1 to 14~~ claim 1.

24. (canceled).

25. (canceled).

26. (canceled).

27. (presently amended) A method of prevention and/or treatment of inflammatory and interstitial lung diseases, comprising ~~the step of~~ administering a fusion protein of ~~any of claims 1 to 14~~ claim 1 to a mammal at a dose sufficient to prevent and/or treat the disease.

28. (originally presented) The method according to claim 27, wherein the fusion protein is administered to a mammal by an administration selected from the group consisting of parenteral administration, non-parenteral (enteral) administration, and topical administration.

29. (originally presented) The method according to claim 28, wherein parenteral administration is by aerosol administration or intratracheal instillation.

30. (new) The fusion protein of claim 6, wherein the mammalian plasminogen activator is selected from the group consisting of high molecular weight two-chain urokinase-plasminogen activator (HMW-u-PA), low molecular weight two-chain u-PA (LMW-u-PA), low molecular weight u-PA B-chain, recombinant single-chain u-PA (r-scu-PA), tissue-plasminogen activator (t-PA), recombinant t-PA (rt-PA), its variants r-PA, n-PA, and TNK-t-PA, and catalytically active mutants of the plasminogen activator.

31. (new) A nucleic acid molecule comprising a nucleotide sequence encoding a fusion protein of claim 6.

32. (new) A method for production of a fusion protein of claim 6, comprising:
(a) introducing a nucleic acid molecule encoding the fusion protein into a suitable vector, and
(b) introducing the recombinant vector obtained in (a) into a suitable host cell or into a suitable cell extract.

33. (new) A pharmaceutical composition comprising a fusion protein of claim 6.

34. (new) A method of prevention and/or treatment of inflammatory and interstitial lung diseases, comprising administering a fusion protein of claim 6 to a mammal at a dose sufficient to prevent and/or treat the disease.